217/782-2113

CONSTRUCTION PERMIT - NSPS

PERMITTEE

Union Electric Company d/b/a AmerenUE
Attention: Michael L. Menne
1901 Chouteau Avenue
P.O. Box 66149, MC 602
St. Louis, MO 63166-6149

Application No: 03120068 I.D. No.: 119105AAA
Applicants Designation: CT03-CT05 Date Received: December 12, 2003
Subject: Combustion Turbines CT03, CT04, CT05
Date Issued: September 27, 2004
Location: Venice Power Plant, 701 Main Street, Venice, Madison County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of three natural gas fired combustion turbines (CT03 and CT04 - nominal capacity 212 MWe each, and CT05 - nominal capacity 135 MWe) equipped with low NO_X combustor systems, one natural gas fired indirect heater, and other associated ancillary equipment as described in the above referenced application and summarized in Table - 1, Attachment A. This Permit is subject to standard conditions attached hereto and granted based upon the findings and special conditions, which follow:

Findings

1. AmerenUE has requested a permit to install three natural gas fired simple cycle combustion turbines (CT) at its existing Venice Power Plant. The new turbines would replace the oil and gas fired steam-generating units previously at the site.

2. The Venice Power Plant is located in Madison County. The area is currently designated as nonattainment for ozone and attainment for all other criteria pollutants.

3a. The proposed project is not a major project pursuant to Prevention of Significant Deterioration of Air Quality Regulations (PSD). For Carbon monoxide (CO), Sulfur Dioxide (SO_2), and Particulate Matters (PM/PM10), this is because emissions from the proposed project (without considering any contemporaneous decreases) are less than the significant emission levels for respective pollutants. For Nitrogen Oxide (NO_X), this is because the net change in emissions is below the significant emission level of 40 tons/year, as shown in Table 6(B).

b. The proposed project is not subject to Illinois's rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. This is because the project is not a major project for ozone precursors, i.e. Volatile Organic Material (VOM) and Nitrogen Oxide (NOx) emissions.

4. After reviewing the materials submitted by AmerenUE, the Illinois EPA has determined that the project will (i) comply with applicable Board

emission standards, and (ii) comply with applicable federal emission standards.

5. The combustion turbines are affected units under the Acid Rain Deposition Control Program pursuant to Title IV of the Clean Air Act and are subject to certain control requirements and emissions monitoring requirements pursuant to 40 CFR Parts 72, 73 and 75. As affected units under the Acid Rain Control Program, these units must be covered by an Acid Rain Permit before commencing operation.

6. The air quality analysis submitted by AmerenUE shows that the proposed project would not cause violations of the national ambient air quality standards for criteria pollutants for which the area is attainment.

7. A copy of the application, the project summary and a draft of this permit were placed in a location in the vicinity of the project, and the public was given notice and an opportunity to examine this material and to provide oral comments at a public hearing, and to submit written comments on this matter.

Conditions

1a. The turbines are subject to the New Source Performance Standard (NSPS) for Stationary Gas Turbines, 40 CFR 60, Subpart A and GG. The Illinois EPA is administrating NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

b. The Permittee shall not emit into the atmosphere from any turbine any gases which contain nitrogen oxides (NO_X) in excess of the applicable standards pursuant to 40 CFR 60.332 (a)(1).

c. The Permittee shall not emit into the atmosphere from any turbine any gases which contain sulfur dioxide (SO_2) in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis, or shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight, pursuant to 40 CFR 60.333 (a) and (b), respectively.

d. At all times, the Permittee shall maintain and operate the turbines in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).

2a. The turbines are affected units under the Acid Rain Deposition Control Program pursuant to Title IV of the Clean Air Act and are subject to certain permit requirements and emissions monitoring requirements pursuant to 40 CFR Parts 72, 73 and 75. As affected units under the Acid Rain Control Program, the Permittee must also obtain an Acid Rain Permit for operation of the turbines in accordance with 40 CFR 72.30(b)(2)(ii) and 72.32(a).

b. i. The turbines would qualify as Electrical Generating Units (EGU) for purposes of 35 IAC Part 217, Subpart W, the NO_x Trading Program for Electrical Generating Units.

ii. This source and the budget EGUs at this source shall comply with all applicable requirements of Illinois' NOx Trading Program, i.e., 35 IAC Part 217, Subpart W, and 40 CFR Part 96 (excluding 40 CFR 96.4(b) and 96.55(c), and excluding 40 CFR 96, Subparts C, E and I), pursuant to 35 IAC 217.756(a) and 217.756(f)(2).

iii. By November 30 of each year, the allowance transfer deadline, the account representative of each budget EGU at this source shall hold allowances available for compliance deduction under 40 CFR 96.54 in the budget EGU's compliance account or the source's

overdraft account in an amount that shall not be less than the budget EGU's total tons of NOx emissions for the preceding control period, rounded to the nearest whole ton, as determined in accordance with 40 CFR 96, Subpart H, plus any number necessary to account for actual utilization (e.g., for testing, startup, malfunction, and shutdown under 40 CFR 96.42(e) for the control period, pursuant to 35 IAC 217.756(d)(1).

3a. The only fuel fired in the turbines shall be natural gas.

b. The Permittee shall not fire more than 5,500 million standard cubic feet of natural gas per year (mmscf/yr) total, in the turbines. Compliance with this limit shall be determined from a running total of 12 months of data.

c. i. Each turbine shall be equipped, operated, and maintained with dry low NO_X combustors to control NO_X emissions. (Dry low NOx operation of the burners may be supplemented with small amounts of water to further control emissions of NOx.)

ii. A. Hourly emissions from turbine CT03 and CT04 each shall not exceed the limitations in Table - 2(A) except during startup and shutdown as addressed by Condition 4(b).

B. Hourly emissions from the turbine CT05 shall not exceed the limitations in Table – 2(B) except during startup and shutdown as addressed by Condition 4(b).

C. The limits in Table 2(A) and 2(B) are based on the information provided in the permit application. For NOx and any other pollutant for which continuous emission monitoring is performed, the compliance time period is 24-hours, or the portion of each calendar day that a turbine operates. For other pollutants, for which continuous emission monitoring is not performed, the compliance time period is three hours (three test runs).

d. i. The total annual emissions from the turbines shall not exceed the limitations in Table - 3. Compliance with these limitations shall be determined as a running total of 12 months of emission data.

ii. For purpose of determining compliance with the limitations in Table - 3:

A. Emissions of NOx shall be determined by continuous emission monitoring in accordance with Condition 10.

B. Emissions shall be determined from emission factors developed from testing in accordance with Condition 12 (CO, VOM and PM/PM_{10}) and analysis of fuel sulfur content or standard factors (SO_2), unless emission monitoring is performed for a pollutant.

C. I. Notwithstanding the above, for turbines CT03 and CT04 for CO and VOM, unless an alternative factor is established or emissions monitoring is performed, emissions of CO and VOM from turbine CT03 and CT04 during an hour that includes a startup shall be presumed to be 1,800 and 2,600 percent respectively of the limits in Table – 2(A), i.e. CO and VOM emissions during an hour with a startup shall be presumed to be 882 lb/hr and 85.8 lb/hr, respectively.

II. Notwithstanding the above, for turbine CT05 for CO and VOM, unless an alternative factor is established or emissions monitoring is performed, emissions of CO and VOM from turbine CT05 during an hour that includes a startup shall be presumed to be 625 and 1,100 percent respectively of the limits in Table - 2(B).

III. These presumptions are based on data in the application describing maximum emissions during startup of a turbine. Any alternative factor for emissions during startup of a turbine shall be based on representative emission testing conducted with USEPA Reference Test Methods. (Refer to Condition 12.)

D. The establishment of the above procedures for determining compliance with the annual emission limits shall not shield the Permittee from responsibility to account for all emissions from the source, including emissions during startup and malfunction, as other credible information may demonstrate that the above procedures do not adequately account for the actual emissions of the source.

The above limits are established to address applicability of 40 CFR 52.21, the federal rules for Prevention of Significant Deterioration of Air Quality (PSD) and the state rules for Major Stationary Source Construction and Modification (MSSCAM), 35 IAC, Part 203. These limitations ensure that the construction and operation of the turbines do not constitute a new major source pursuant to PSD or MSSCAM.

4a. The emission of smoke or other particulate matter from each turbine shall not have opacity greater than 30 percent, pursuant to 35 IAC 212.123(a).

b. i. Each turbine shall be operated in a manner consistent with good air pollution control practice to minimize emissions and opacity during startup and shutdown including the following.

A. The Permittee shall manage the operation of the turbines to minimize multiple startups of a turbine in a single day, unless the turbine is tripped off during startup, and to provide adequate time for normal startup of the turbines, except for "quick starts" that are due to requests for immediate delivery of power, as would result from unexpected loss of a transmission line or other generating capacity.

B. Except during startup or shutdown of a turbine or for the purpose of emission testing, the Permittee shall not operate turbines below 75 percent load, or load at which emission testing conducted in accordance with Condition 12(b) has demonstrated compliance with the applicable hourly emission limits in Conditions 3(c)(ii) (see Condition 12(b)(iii)).

C. The Permittee shall operate the turbines in accordance with written operating procedures that shall include at a minimum the following measures:

I. Review of operating parameters of the unit during startup, or shutdown as necessary to make adjustments to reduce emissions.

II. Implementation of inspection and repair procedures for a turbine prior to attempting startup following repeated trip offs.

D. For required operational testing, e.g., synchronization testing, that is not addressed by its established procedures, the Permittee shall prepare event specific procedures developed to minimize emissions and notify the Illinois EPA prior to conducting such testing.

E. The Permittee shall maintain the turbines in accordance with written procedures that shall include at a minimum the following measures:

I. Periodic inspection of components of the turbines that affect emissions.

II. Timely replacement of components of the turbine that affect emissions that must be routinely replaced.

ii. The above procedures may incorporate the manufacturer's written instructions for operation and maintenance of the turbines. The Permittee shall review these procedures at least annually and shall enhance them as necessary to be consistent with good air pollution control practice based on actual operating experience and performance of the turbines.

5a. Emissions of hazardous air pollutants (HAPs) from the new turbines and the two existing turbines at the plant shall not exceed the limitations in Table - 4.

b. Emissions of volatile organic material (VOM) from existing turbine CT01 shall not exceed 2.0 lb/hr and 9.0 tons/year.

Note: These limits on HAP emissions and VOM emissions are intended to ensure that this source is not a major source of HAP emissions. VOM emissions of turbine CT02 are already limited to 20 tons/year by Construction Permit 01080020. These limits have been requested by the Permittee so that the source does not trigger requirements of 40 CFR 63 Subpart YYYY, for turbines.

6. Emissions from the indirect heater shall not exceed the limitations in Table - 5. These limits are based on the information provided in the application and operation of each indirect heater for 8760 hours per year.

7a. Under this permit, each new emission unit may be operated for a period of up to 180 days from initial startup to allow for equipment shakedown and emissions testing as required. The Illinois EPA, upon request of the Permittee, may extend this period if additional time is needed to complete shakedown or perform emission testing.

b. Upon successful completion of emission testing for the new turbines demonstrating compliance with applicable short-term limitations, the Permittee may continue to operate emission units pursuant to this permit until the CAAPP Permit is revised to include these units.

c. This condition supersedes standard Condition 6.

8. The Permittee shall furnish the Illinois EPA with written notification as follows with respect to commencement of construction and operation of the turbines:

a. The date construction of the turbines commenced postmarked no later than 30 days after such date, pursuant to 40 CFR 60.7(a)(1).

b. The actual date of initial startup of the turbines, postmarked within 15 days after such date, pursuant to 40 CFR 60.7(a)(3).

c. The actual date that each turbine begins gainful operation, with electricity produced by the turbine available for sale at more than the minimum or avoided cost of the purchaser, postmarked within 15 days after such date.

9a. The Permittee shall sample and analyze for the total sulfur content of the fuel being fired in each turbine pursuant to 40 CFR 60.334(h)(1), unless the Permittee demonstrates that fuel for a turbine meets the definition of "natural gas" in 40 CFR 60.334(u), in accordance with 40 CFR 60.334(h)(3) and (i)(2).

b. If the Permittee relies on an allowance for fuel bound nitrogen (F-value) in the fuel for a turbine, the Permittee shall conduct monitoring for the nitrogen content of such fuel in accordance with 40 CFR 60.335(b)(9) and (i)(2), as provided by 40 CFR 60.334(h)(2). Otherwise, monitoring of fuel nitrogen content is not required.

10a. The Permittee shall install, operate, and maintain a Continuous Emissions Monitoring (CEM) system on each turbine to measure emissions of NO_X. The applicable procedures under 40 CFR 60.334(b) and 40 CFR Part 75 shall be followed for the installation, evaluation, and operation of these NO_X CEM systems, in accordance with 40 CFR 60.334(d) and (e).

b. After three years of beginning operation, if a turbine qualifies for alternative monitoring under 40 CFR part 75, i.e. 40 CFR 75.19, Low Mass Emissions (LME) Excepted Methodology, or 40 CFR Part 75, Appendix E, Emission Estimation Protocol For Peaking Units, the Permittee may conduct monitoring for NOx in accordance with such an alternative, provided that (1) the Permittee also performs parametric monitoring in accordance with 40 CFR 75.19(c)(1)(iv)(H) or Section 2.3 of 40 CFR 75, Appendix E, respectively, pursuant to 40 CFR 60.334(f)(2) and (4), and (2) the Permittee conducts operational monitoring in accordance with 40 CFR 60.334(a) including monitoring of water to fuel ratio for the water injection system, pursuant to 40 CFR 60.334(d).

11. The Permittee shall equip, operate, and maintain each turbine with instrumentation to measure the fuel consumption to the turbine and, when water is being injected, the water injection rate.

12a. i. The nitrogen oxides (NO_X), carbon monoxide (CO), volatile organic material (VOM), and particulate matter (PM) emissions, oxygen (O_2) concentrations and opacity in the exhaust of the turbines shall be measured by an independent testing service approved by the Illinois EPA as follows to determine compliance with the emissions limits in Conditions 1 and 3:

A. Within 60 days after operating a turbine at the greatest load at which it will normally be operated but not later than 180 days after its initial startup.

B. Within 90 days after a written request from the Illinois EPA, for such pollutants listed above as specified by the request.

C. Any extension to these time periods that may be provided at its discretion by the Illinois EPA shall not alter the Permittee's

obligation to perform emission testing for purpose of the NSPS in a timely manner as specified by 40 CFR 60.8.

ii. Upon written request by the Illinois EPA, the Permittee shall conduct measurements of emissions of VOM and organic hazardous air pollutants (e.g., formaldehyde, benzene, toluene, xylene, acetaldehyde, etc.) for the existing turbines (CT01 and CT02), using the procedures and methods specified in this permit (see Condition 12), provided however that as part of its review of the test plan, the Illinois EPA may approve alternative methods for HAP emissions recognized by the USEPA.

b. The following methods and procedures shall be used for testing of emissions:

i. The following test methods shall be used unless alternative test procedures are approved by USEPA:

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3 or 3A
Moisture	USEPA Method 4
Opacity	USEPA Method 9
Carbon Monoxide	USEPA Method 10 / CEMS
Volatile Organic Material	USEPA Method 18 or 25A
Nitrogen Oxides[1]	USEPA Method 20, 7 or 7E / CEMS
Particulate Matter[2]	USEPA Method 5
Particulate Matter10	USEPA Method 201 or 201A (40 CFR 51, Appendix M)
Formaldehyde[3]	Celanese Method

[1] With approval of USEPA, testing for nitrogen oxides can be conducted in conjunction with certification of the continuous emission monitors for nitrogen oxides required by Condition 10.

[2] PM emissions measured by USEPA Method 5, including back half condensable particulate, may be provided as an alternative to measurement of PM_{10} emissions using USEPA Method 201 or 201A.

[3] "Formaldehyde in Stack Gas Test procedure" adapted from the Celanese Method (CL 8-4)

ii. Measurements for NO_X shall be conducted in accordance with 40 CFR 60.335(b)(7), unless alternative testing procedures are approved by USEPA pursuant to 40 CFR 60.8(b).

iii. Measurements for other pollutants shall be conducted as follows:

A. CO, PM, and VOM emissions shall be measured at peak, intermediate and minimum gas turbine load.

B. Measurements for organic hazardous air pollutants in the VOM (e.g., formaldehyde, toluene, acetaldehyde, and acrolein) shall be provided if VOM emissions are measured by Method 18. (See also Condition 12(c)(iii).)

C. Unless continuous emissions monitoring is conducted for the particular pollutant, measurements shall also be performed for emissions of NO_X, CO and VOM during startup of a turbine, in accordance with a plan approved by the Illinois EPA. For purposes of these measurements, as approved by the Illinois EPA, the Permittee may adapt USEPA Reference Test

Methods as necessary to address the short duration and transient conditions of startups.

c. At least 60 days prior to the actual date of testing, a written test plan shall be submitted to the Illinois EPA for review. This plan shall describe the specific procedures for testing and shall include as a minimum:

i. The person(s) who will be performing sampling and analysis and their experience with similar tests.

ii. The specific conditions under which testing shall be performed including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for a turbine will be tracked and recorded.

iii. The specific determinations of emissions that are intended to be made, including sampling and monitoring locations; the test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods; and identification of any organic hazardous air pollutants that will be measured. As part of this plan, The Permittee shall propose a plan for testing across the normal operating range of the turbines. The Permittee also may set forth a strategy for approval by the Illinois EPA for performing emission testing of selected turbines provided that all turbines are fitted for testing; the identity of the turbines to be tested is determined immediately before testing, by the Illinois EPA or otherwise randomly; and continuous emission monitoring of NO_X is present on all turbines.

iv. The proposed plans for testing emissions during startup of a turbine as required by Condition 12(b)(iii)(C), including the number of startups for which measurements will be performed; the procedures that will be followed for startup of the turbine; the approach that will be generally followed to assure that measurements can be conducted for and will be representative of the startup period; any proposed adaptations to reference test methods; and any other significant considerations for testing of emissions during startup.

d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification of the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the test. The Illinois EPA may, at its discretion, accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe the testing.

e. Three copies of the final reports for emission tests shall be forwarded to the Compliance Section in Springfield within 30 days after the test results are compiled and finalized. The final report from testing shall contain a minimum:

i. A summary of results.

ii. General information.

iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.

iv. Detailed description of test conditions, including:

A. Fuel consumption (standard ft^3).

B. Firing rate (million Btu/hr).

C. Turbine/Generator output rate (MW).

v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

13a. The Permittee shall maintain a file of the following items:

i. Manufacturers specification of rated turbine load.

ii. Documentation for the characteristics of fuel as determined in accordance with Condition 9(a).

iii. Heat content of the natural gas (Btu/ft^3) being fired, with supporting documentation, on a quarterly basis.

iv. A copy of the Final Report(s) for emission testing conducted pursuant to Condition 12.

v. Copies of opacity determinations taken for the source by qualified observer(s) using USEPA method 9.

b. The Permittee shall maintain the following daily operating records:

i. The quantity of fuel consumed for each turbine (standard cubic feet).

ii. Period of time when water injection was used in a turbine with explanation for use.

iii. Sulfur and nitrogen contents of fuel fired in each turbine, if applicable. (Refer to Conditions 9(a) and (b).)

iv. Fuel consumption and/or operating hours for the indirect heater.

c. The Permittee shall maintain the following records related to each startup of a turbine:

i. Date and time of startup.

ii. A description of the startup, if written operating procedures are not followed during the startup or significant problems occur during the startup, including detailed explanation.

d. The Permittee shall keep inspection, maintenance, and repair logs with dates and the nature of such activities for each turbine.

e. The Permittee shall maintain the following records related to emissions:

i. Other data, not addressed above, used or relied upon by the Permittee to determine emissions.

ii. Fuel consumption and number of startups for each turbine, compiled at least on a monthly basis.

iii. Monthly and annual emissions of NO_X, SO_2, PM/PM10, VOM, CO and HAP emissions (tons/month and tons/year) with supporting calculations. NO_X emissions shall be based on data from the NOx monitoring performed in accordance with Condition 10. All other emissions shall be calculated based on fuel consumption data and site-specific emission factors developed from emission test data or other methods approved by the Illinois EPA. For the purpose of HAP emissions, the Permittee shall quantify principal HAP emissions from the new turbines and also the existing turbines such as formaldehyde, benzene, toluene, xylene, and acetaldehyde.

iv. NO_X emissions, from each turbine recorded hourly (in lb/mmBtu and lb or ton) by combining the pollutant concentration (in ppm) and diluent's concentration (in percent O_2 or CO_2) measurements according to the procedures in 40 CFR Part 75, Appendix F.

f. The Permittee shall maintain records that identify:

i. Any periods during which a continuous monitoring system was not operational, with explanation.

ii. Any day in which emissions or operation exceeded an applicable standard or limitation.

g. The Permittee shall maintain records documenting annual review of its operating procedures (see Condition 4).

h. All records required by this permit shall be retained on site for a period of at least five years and shall be readily available for inspection and copying by the Illinois EPA upon request.

14a. During the first three years (36 months) of beginning operation of the turbines, the Permittee shall notify the Illinois EPA within 10 days if the total NO_X emissions from the three turbines go above 130 tons/year, as calculated following Condition 13(e)(iii). This notification shall explain whether this appears to be due to unusually high demand for power or represents levels of demand that may be expected to continue in the future.

b. If there is any exceedance of the requirements of Conditions 1, 3 and 4 of this permit, as determined by the records required by this permit or by other means, the Permittee shall promptly report to the Illinois EPA, as specified by the CAAPP permit.

c. In conjunction with the Annual Emission Report required by 35 IAC Part 254, the Permittee shall provide the following information for the new turbines except as specified:

The total number of startups; if any, the total number of "quick starts"; the total fuel consumption during the preceding calendar year; and HAP emissions from all emission units including existing turbines.

d. The Permittee shall comply with applicable reporting requirements under the Acid Rain Program, with a single copy of such report sent to Illinois EPA. This copy shall be sent to the Division of Air Pollution Control, Compliance Unit.

e. If the emission testing required by Condition 12(a)(i) is not performed within 60 days of beginning gainful operation of a turbine, the Permittee shall submit a report summarizing NO_X, CO, VOM (or hydrocarbon), PM/PM10, and HAP emissions of the turbines as determined

by diagnostic measurements, e.g., combustion gas analyzers, during shakedown of the turbines.

15. Two copies of required reports and notifications concerning equipment operation or repairs, performance testing, or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

Telephone: 217/782-5811 Fax: 217/782-6348

and one copy shall be sent to the Illinois EPA's regional office at the following address, unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
2009 Mall Street
Collinsville, IL 62234
Telephone: 618/346-5120 Fax: 618/346-5155

16a. This Permit for the above referenced project does not relieve the Permittee from the responsibility to comply with all Local, State and Federal Regulations which are part of the applicable Illinois State Implementation Plan, as well as all other applicable Federal, State, and Local requirements.

b. In particular, this Permit does not relieve the Permittee from the responsibility to carry out practices during construction and operation, such as application of water or dust suppressant sprays to unpaved traffic areas, to minimize fugitive dust and prevent an air pollution nuisance from fugitive dust, as prohibited by 35 IAC 201.141.

If you have any questions concerning this permit, please contact Manish Patel at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:MNP:

Attachments

cc: Region 3

Attachment A

Table – 1

Significant Emission Units

Unit I.D.	Description	Number of units	Rated Heat Input[a] (mmBtu/hr)	Control
CT03 and CT04	Combustion Turbine	2	2,121	Dry Low NO_x Combustors
CT05	Combustion Turbine	1	1,524	Dry Low NO_x Combustors
IH - 01	Indirect Heater	1	8.0	None

[a] Nominal capacity ratings are per unit.

Table – 2(A)

Hourly Emission Limits for Turbines CT03 and CT04

NO_x (lb/hr) (lb/mmBtu)	CO (lb/hr) (lb/mmBtu)	VOM (lb/hr)	PM/PM10 (lb/hr)	SO_2 (lb/hr)
120.0 (0.057)[b]	49.0 (0.023)[b]	3.3	10.4	1.3

[b] Based on Higher Heating Value (HHV) of the fuel.

Table – 2(B)

Hourly Emission Limits for Turbine CT05

NO_x (lb/hr) (lb/mmBtu)	CO (lb/hr) (lb/mmBtu)	VOM (lb/hr)	PM/PM10 (lb/hr)	SO_2 (lb/hr)
83.0 (0.054)[c]	69.0 (0.045)[c]	3.0	10.4	0.9

[c] Based on Higher Heating Value (HHV) of the fuel.

Table – 3

Total Annual Emissions Limit of New Turbines (ton/yr)

NO_x	CO	PM/PM10	VOM	SO_2
172.4	96.1	14.6	5.0	5.0

Table - 4

Hazardous Air Pollutant Limits (On Individual HAP)

Hourly Emissions* – Each turbine (lb/hr)				Annual Emissions* – Total for each group of turbines (Tons/yr)				
CT01 (Dist. Oil**)	CT02		CT03, CT04, and CT05	CT01 (Dist. Oil**)	CT02		CT03, CT04, and CT05	Total
	Natural Gas	Dist. Oil**			Natural Gas	Dist. Oil**		
0.5	2.0	0.5	2.0	2.2	1.3	0.2	2.8	6.5

* Applies to each individual HAP such as formaldehyde, benzene, etc.
** For distillate oil firing, limit also addresses particulate HAP, e.g. manganese.

Table – 5

Emissions Limits[d] for Indirect Heater

Pollutant	Emissions (lb/hr)	Emissions (ton/year)
NO_X	0.78	3.4
CO	0.66	2.9
VOM	0.04	0.2
PM/PM_{10}	0.06	0.3
Individual HAP*	0.02	0.1

[d] These limits are based on the information provided in the application and operation of the indirect heater for 8760 hours per year.
* Emissions of individual HAP, e.g., formaldehyde, benzene, etc.

Table - 6(A)

Historical Emissions (Existing Boilers 1 through 8 and Auxiliary Boiler) (ton/yr)

Pollutant	1998	1999	Two Year Average
NO_X	177.88	173.66	175.77
CO	33.05	33.28	33.17
VOM	1.29	1.20	1.24
PM	7.39	7.61	7.50
PM10	6.16	6.20	6.18
SO_2	17.80	28.02	22.91

Table - 6(B)

Net Change in NO_X Emissions (ton/yr)

Pollutant	Project Permitted Emissions	Historical Actual Emissions (Contemporaneous decreases)	Turbine CT02 permitted emissions (Contemporaneous increases)	Net Change
NO_X	175.8	175.8	39.0	39.0